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(term or phrase or word) and query and (su Search

Advanced Search
Preferences

Lowercase **"or"** was ignored. Try **"OR"** to search for either of two terms. [details]
The **"AND"** operator is unnecessary -- we include all search terms by default. [details]

Web Results **1** - **10** of about **7,330** for **(term or phrase or word) and query and (sum or total) and weight**. (1

CONTAINS **Query** Operators
... qualifier in a broader or narrower **term query**, the qualifier ... an acceptable substitution for a **word** in a ... documents that contain either the **phrase** alsatians are ...
www.cise.ufl.edu/help/database/ oracle-docs/text.920/a96518/cqoper.htm - 101k - Cached - Similar pages

[PPT] ISP433/633 Week 3
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... Context queries. **Phrases**. Proximity. Boolean queries. ... Search **Words**. Optional field or index qualifications. Boolean Operators. ... **Query** expansion. **Term** re-weighting. Type. ...
www.albany.edu/faculty/ hy973732/isp433/notes/ISP433w3.ppt - Similar pages

[PPT] Mandarin-English Information (MEI): Investigating Translingual ...
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... Bilingual. **Term**. List. **Query**. ... Inquery #**sum**() operator. TDT-2, **phrase**-based translation, **word**-based retrieval. Retrieval Granularity. Character bigrams are best. ...
www.glue.umd.edu/~oard/papers/queens.ppt - Similar pages

[PDF] Information retrieval models **Query** methods
File Format: PDF/Adobe Acrobat - View as HTML
... return documents that contain the **phrase** "UFO Sightings ... return documents – that contain the **word** k a ... documents containing this **term** The **term weight** is given ...
www.cs.rpi.edu/~sibel/mmdb/lectures/ir_models.pdf - Similar pages

[PPT] www.ist.temple.edu/~vucetic/cis670_fall2002/irmodels.ppt
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... Missing syntactic information (eg **phrase** structure, **word** order, proximity ... Given a two-**term query** "AB", may prefer a document containing A ...
Similar pages

Understanding **Query** Expressions
... Thesaurus Operators. The thesaurus operators expand a **query** for a single **term** (**word** or **phrase**) using a thesaurus that defines relationships between the user ...
www-rohan.sdsu.edu/doc/ oracle/context206/A54630_01/ch03.htm - 101k - Cached - Similar pages

CS397CXZ Assignment #2: Pivoted Normalization vs. BM25 (Okapi) ...
... the average length of documents in the collection, the **total** counts of a **term** in the ... Group a **word** pair that occurs frequently as one single **phrase**. ...
sifaka.cs.uiuc.edu/course/397cxz03f/assign2.html - 12k - Cached - Similar pages

[PDF] Queries in Oracle 9i Text
File Format: PDF/Adobe Acrobat - View as HTML
... can be either single **words** or **phrases** and must ... queries when the expression has more than one **query term**. ... documents that have the more similar **words** compared to ...
nordbotten.ifi.uib.no/VirtualMuseum/ Publications/OracleTextQueries-Nina-draft.pdf - Similar pages

[PDF] Discriminative Power and Retrieval Effectiveness of Phrasal ...
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... Consider a supplemental phrasal **term** as informative if ... Single **words Phrases** Single

words + **phrase** Short **query** 2.81 ... rel)/p(occ)) value for **query** terms {#phrasal ...
terral.lsi.uned.es/irnlp2000/papers/fujita.pdf - Similar pages

[PDF] Okapi Chinese text retrieval experiments at TREC Introduction ...
File Format: PDF/Adobe Acrobat - View as HTML
... the e ect of di erent **phrase** weighting functions ... approach perform and better than
the **word** approach city ... assign the usual **sum** of individual **term** weights to ...
research.microsoft.com/users/robertson/ papers/trec_pdfs/okapi_trec6_chinese.pdf - Similar pages

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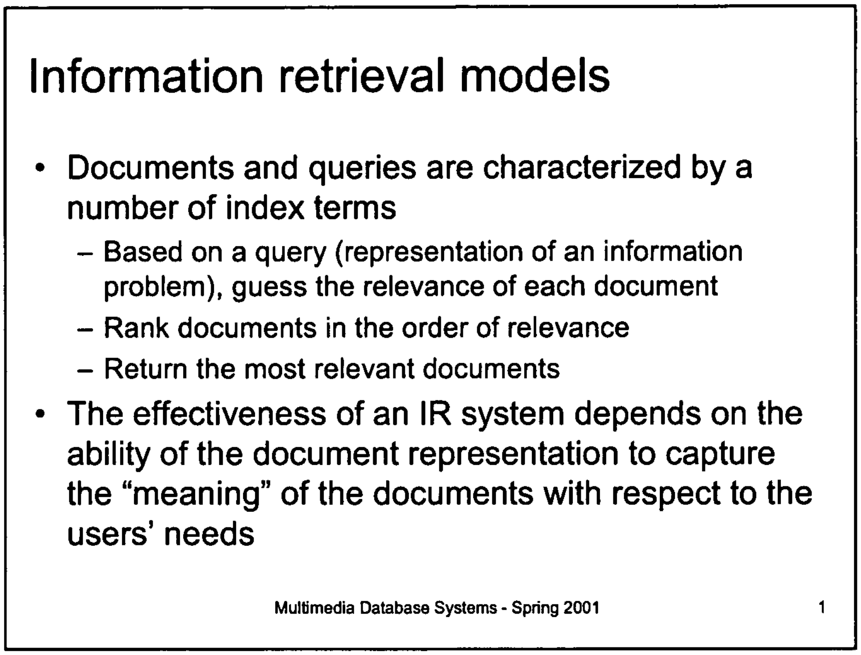
Result Page: **1** 2 3 4 5 6 7 8 9 10 **Next**

(term or phrase or word) and que Search

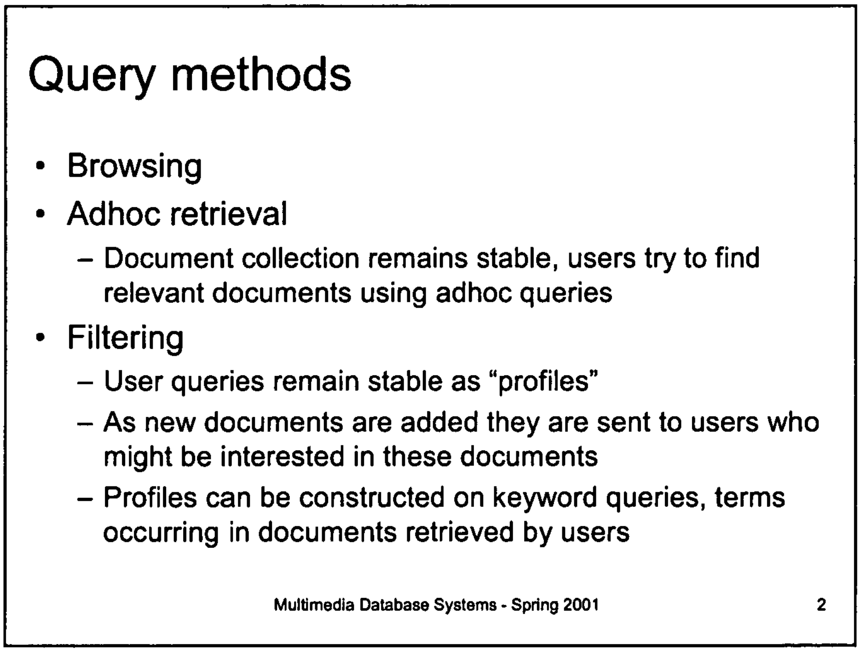
Search within results | Language Tools | Search Tips | Dissatisfied? Help us improve

Google Home - Advertising Programs - Business Solutions - About Google



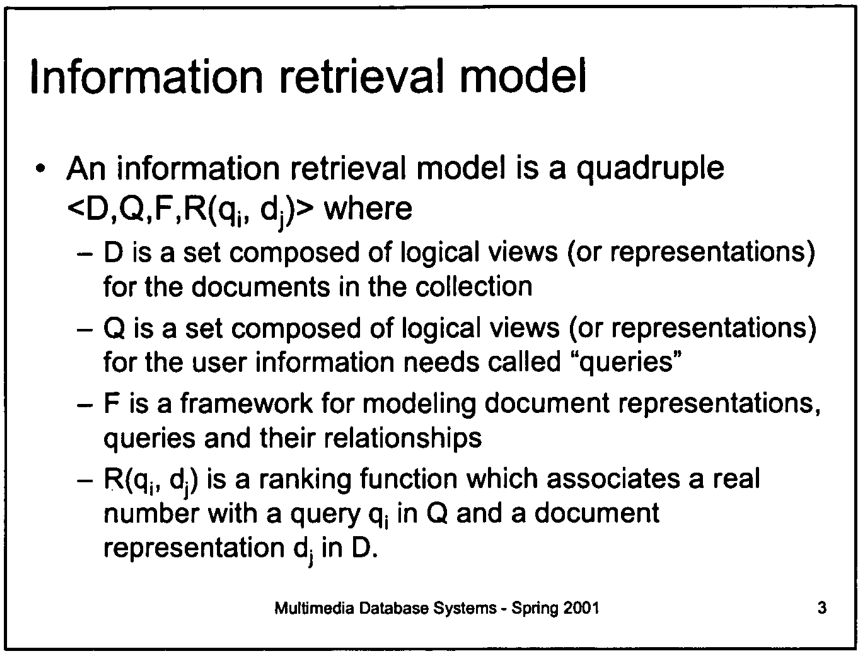
Information retrieval models

- Documents and queries are characterized by a number of index terms
  - Based on a query (representation of an information problem), guess the relevance of each document
  - Rank documents in the order of relevance
  - Return the most relevant documents
- The effectiveness of an IR system depends on the ability of the document representation to capture the “meaning” of the documents with respect to the users’ needs



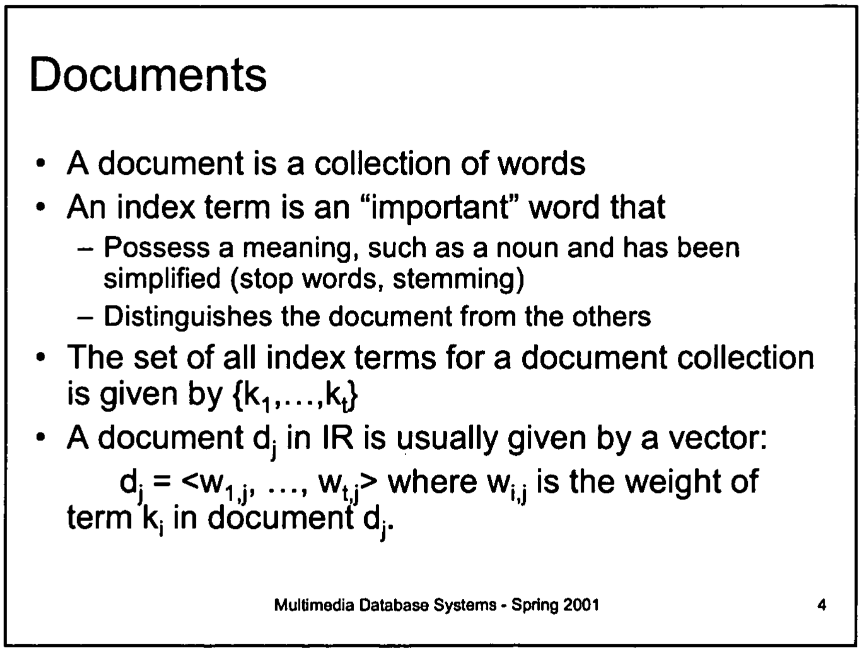
Query methods

- Browsing
- Adhoc retrieval
  - Document collection remains stable, users try to find relevant documents using adhoc queries
- Filtering
  - User queries remain stable as “profiles”
  - As new documents are added they are sent to users who might be interested in these documents
  - Profiles can be constructed on keyword queries, terms occurring in documents retrieved by users



Information retrieval model

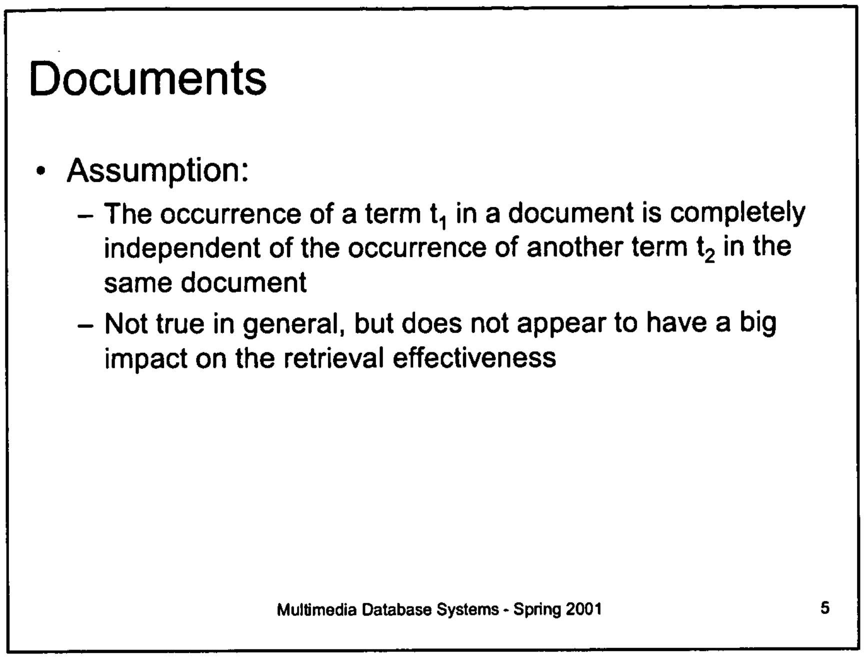
- An information retrieval model is a quadruple <D,Q,F,R(q_i, d_j)> where
  - D is a set composed of logical views (or representations) for the documents in the collection
  - Q is a set composed of logical views (or representations) for the user information needs called “queries”
  - F is a framework for modeling document representations, queries and their relationships
  - R(q_i, d_j) is a ranking function which associates a real number with a query q_i in Q and a document representation d_j in D.



Documents

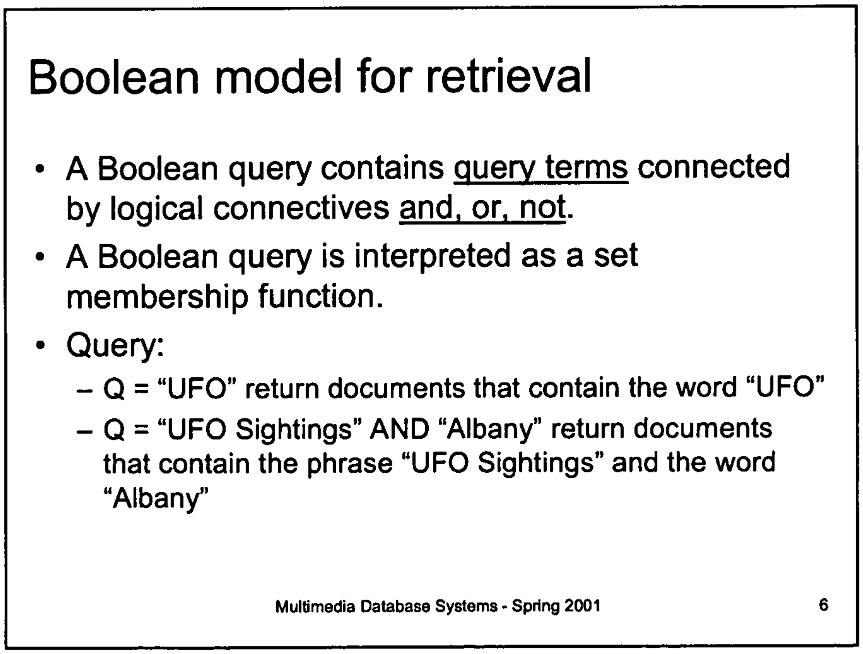
- A document is a collection of words
- An index term is an “important” word that
  - Possess a meaning, such as a noun and has been simplified (stop words, stemming)
  - Distinguishes the document from the others
- The set of all index terms for a document collection is given by $\{k_1,\ldots,k_t\}$
- A document d_j in IR is usually given by a vector:

  d_j = <$w_{1,j}$, …, $w_{t,j}$> where $w_{i,j}$ is the weight of term k_i in document d_j.



Documents

- Assumption:
  - The occurrence of a term t_1 in a document is completely independent of the occurrence of another term t_2 in the same document
  - Not true in general, but does not appear to have a big impact on the retrieval effectiveness



Boolean model for retrieval

- A Boolean query contains query terms connected by logical connectives and, or, not.
- A Boolean query is interpreted as a set membership function.
- Query:
  - Q = "UFO" return documents that contain the word "UFO"
  - Q = "UFO Sightings" AND "Albany" return documents that contain the phrase "UFO Sightings" and the word "Albany"

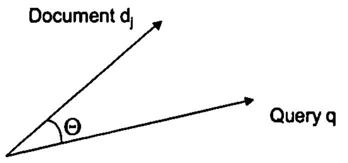
Boolean model for retrieval

- $Q = k_a$ and (k_b or not k_c) return documents
  - that contain the word k_a and
  - either contain k_b or does not contain k_c
- In the boolean model, each document either
  - satisfies the query, then we return 1 (relevant)
  - does not satisfy the query, then we return 0 (irrelevant)
- Documents can be represented as a vector of 0s and 1s
  - 1 if a term appears and 0 if it does not appear

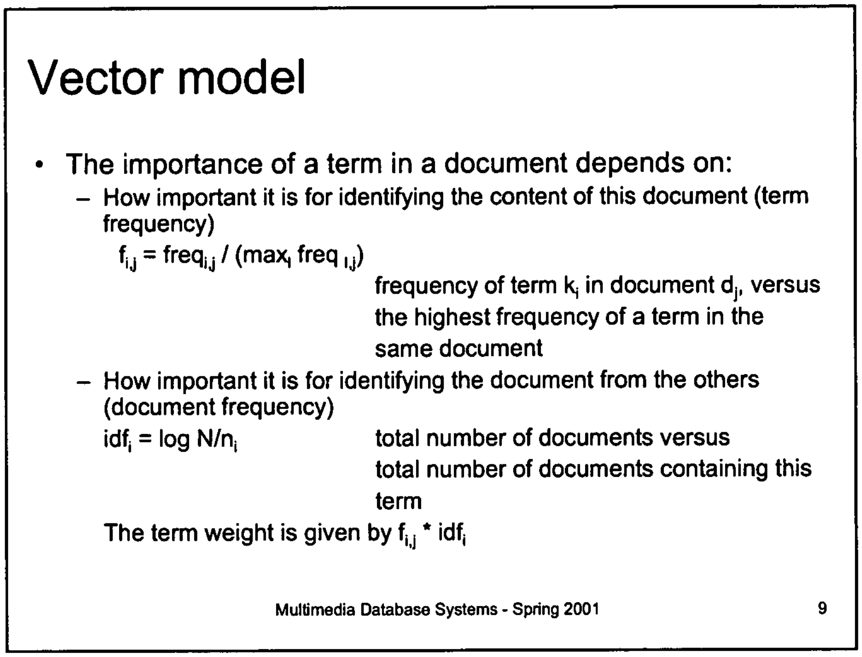
Vector model

- In the vector model, both queries and documents are weighted vectors
- The relevance of a document to a query is given by the "cosine of the angle" between a document vector and a query vector

$$\mathrm{Sim}(d_j,q) = \mathrm{sum}_{i=1..t}(w_{i,j} \,.\, w_{iq}) \,/\, \mathrm{sqrt}(\ \mathrm{sum}_{i=1..t}\,(w_{i,j}{}^{2}) \,.\, \mathrm{sum}_{i=1..t}\,(w_{i,q}{}^{2})\ )$$



$\mathrm{Cos}(\Theta) = \mathrm{Sim}(d_j,q)$



Vector model

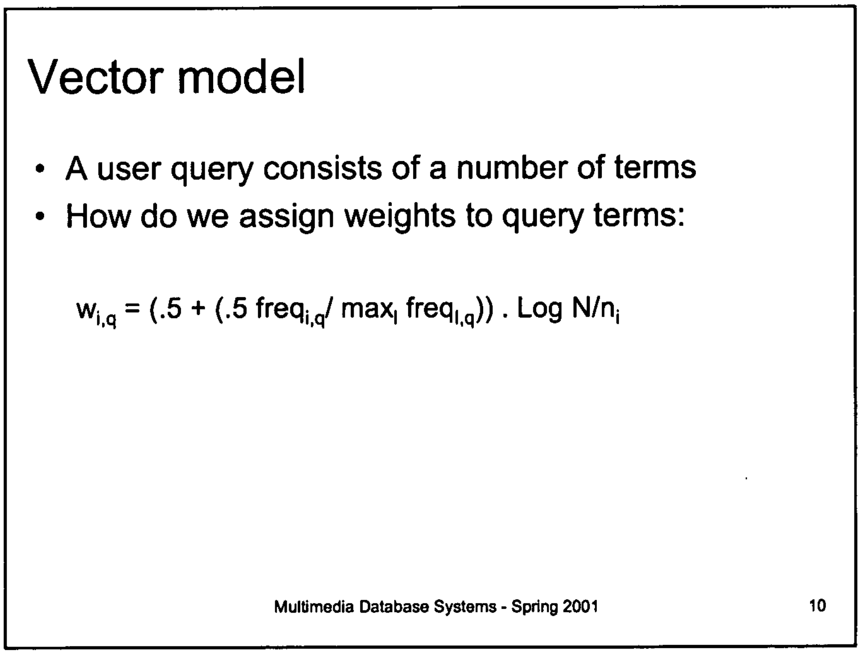
- The importance of a term in a document depends on:
  - How important it is for identifying the content of this document (term frequency)

    $f_{i,j} = freq_{i,j} / (max_l \ freq_{l,j})$

    frequency of term k_i in document d_j, versus the highest frequency of a term in the same document
  - How important it is for identifying the document from the others (document frequency)

    $idf_i = \log N/n_i$ total number of documents versus total number of documents containing this term

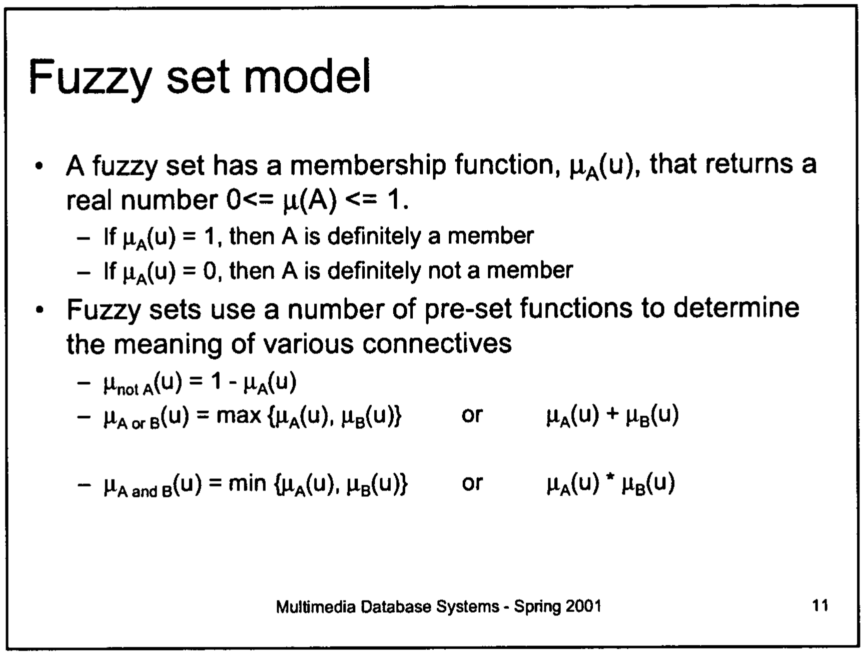
  The term weight is given by $f_{i,j} * idf_i$



Vector model

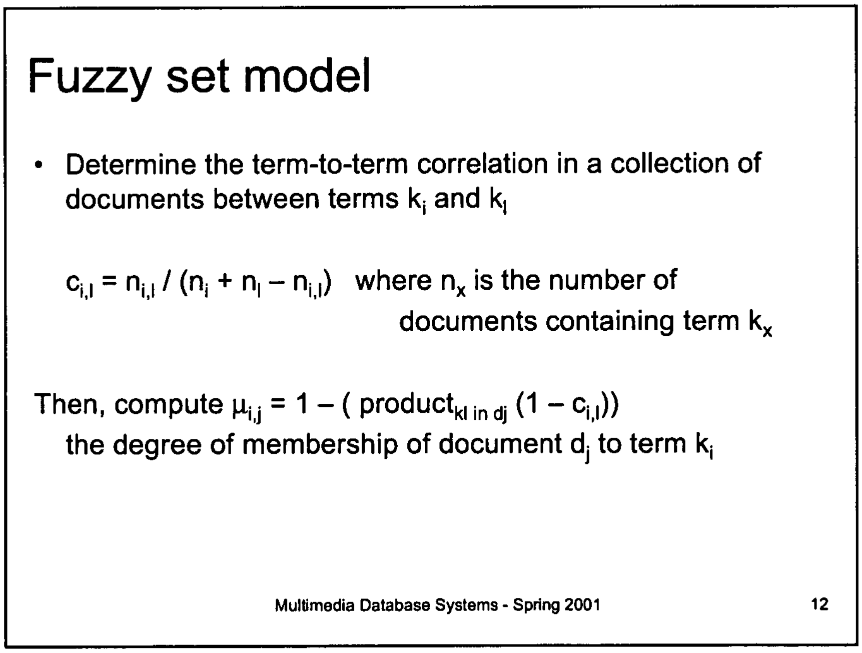
- A user query consists of a number of terms
- How do we assign weights to query terms:

$$w_{i,q} = (.5 + (.5 \ freq_{i,q} / \ max_l \ freq_{l,q})) \ . \ \text{Log} \ N/n_i$$



Fuzzy set model

- A fuzzy set has a membership function, $\mu_A(u)$, that returns a real number $0<= \mu(A) <= 1$.
  - If $\mu_A(u) = 1$, then A is definitely a member
  - If $\mu_A(u) = 0$, then A is definitely not a member
- Fuzzy sets use a number of pre-set functions to determine the meaning of various connectives
  - $\mu_{\text{not } A}(u) = 1 - \mu_A(u)$
  - $\mu_{A \text{ or } B}(u) = \max \{\mu_A(u), \mu_B(u)\}$ or $\mu_A(u) + \mu_B(u)$
  - $\mu_{A \text{ and } B}(u) = \min \{\mu_A(u), \mu_B(u)\}$ or $\mu_A(u) * \mu_B(u)$



Fuzzy set model

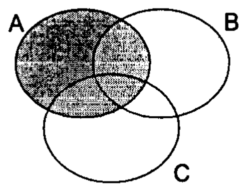
- Determine the term-to-term correlation in a collection of documents between terms k_i and k_l

  $c_{i,l} = n_{i,l} / (n_i + n_l - n_{i,l})$ where n_x is the number of documents containing term k_x

Then, compute $\mu_{i,j} = 1 - (\text{product}_{kl \text{ in } dj} (1 - c_{i,l}))$
the degree of membership of document d_j to term k_i

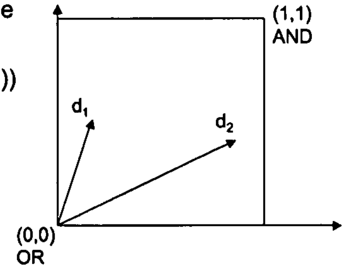
Fuzzy queries

- Given a query $q=k_i$ then similarity of a document d_j to q is given by $\mu_{i,j}$
- Given a query q= k_i AND k_l, the similarity of a document d_j to query q is given by $\mu_{i,j} * \mu_{l,j}$ (or using any appropriate operator for AND)
- Similarly for OR (use + or max)
- Given a complex query: (A and (not B)) or (C),



Extended Boolean Model

- Suppose, you are given a query containing keywords k_x and k_y
- Assume, the weight of terms k_x and k_y in document d_j are given by (x_1,y_1)
- Given query "k_x OR k_y", we would like to be as far away from (0,0) as possible hence maximize distance((0,0), (x_1,y_1))
- Given query "k_x AND k_y", we would like to be as close to (1,1) as possible hence maximize 1 - distance((1,1), (x_1,y_1))



Extended Boolean Model

- Under this model:
  - Sim(or-query, d) = sqrt((x^2+y^2)/2)
  - Sim(or-query, d) = 1 - sqrt(((1-x)^2+(1-y)^2)/2)
- Suppose now connectives and/or have a degree “p”
  - I.e. or-query: k_1 OR^p k_2 OR^o ... OR^p k_m
  - sim(or-query, d) = power((x1^p+x2^p+...+xm^p)/m), 1/p)

  - I.e. and-query: k_1 AND^p k_2 AND^o ... AND^p k_m
  - sim(and-query, d) = 1 - power(((1-x1)^p+(1-x2)^p+...+(1-xm)^p)/m), 1/p)

Extended Boolean Model

- Given p-norms, we have the following properties:
  - If p = 1, then sim(or-query)=sim(and-query)= (x1+...+xm)/m
  - Reduces to arithmetic mean

  - If p = ∞, then sim(or-query)= min(xk) and sim(and-query) = max(xk)